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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,464	03/24/2002	Thomas Benthien	24448-0030	9481
7590 11/26/2004				
Greenblum & Bernstein PLC 1950 Roland Clarke Place Reston, VA 20191			EXAMINER LAVILLA, MICHAEL E	
			ART UNIT 1775	PAPER NUMBER

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/937,464

Applicant(s)

BENTHIEN ET AL.

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 27-29, 34, 35, 37-42 and 44-59 is/are pending in the application.
- 4a) Of the above claim(s) 44-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-29, 34, 35, 37-42 and 53-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 27-79, 34, 35, 37-42, and 53-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - I. Regarding Claim 55, it is unclear whether the particles specified by the phrase "the particles further comprise an oxide of at least one further transition metal" are to satisfy the weight ratio requirement of Claim 54. It is unclear whether individual particles are to further comprise the oxides of Claim 55 or whether mixed oxide particles are not necessarily required.
  - II. Regarding Claim 56, it is unclear whether the particles specified by the phrase "the particles further comprise an oxide of at least one of Co, etc." are to satisfy the weight ratio requirement of Claim 54. It is unclear whether the individual particles are to further comprise the oxides of Claim 56 or whether mixed oxide particles are not necessarily required.
  - III. Regarding Claim 58, penultimate line, it is unclear what is meant by the phrase "Zn have". Should the word "and" be inserted before "have"?

- IV. Regarding Claims 27, 53, 54, and 57-59, it is unclear what is meant by the phrase "glass-forming elements".

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 27-29, 34, 35, and 37-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over JONSCHKER ET AL. EPA 0 842 967 for the reasons of record in the Office Action mailed on 4 June 2004.

***Allowable Subject Matter***

7. Claims 53-59 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The reasons for

allowability are specified in the reasons of record in the Office Action mailed on 4 June 2004.

***Response to Amendment***

- I. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejection of the Office Action mailed on 4 June 2004. Rejections not repeated above are withdrawn. With respect to the term "obtainable", applicant explains that the claims are "product-by-process" claims. As such, it is evident that the claimed process limitations are among the claim elements of the claimed subject matter. With respect to the phrase "glass-forming elements," applicant has provided examples of various glass-forming elements in oxide form. It remains unclear, however, what are the boundaries of this phrase. Do these elements in any compound suffice? Oxygen is found in glass. Does oxygen in any compound suffice? Must the compound of glass forming elements itself be useful in forming a glass? Must it achieve a glass in the claimed process step of forming a coating? It is unclear how applicant's argument pertaining to the optional character of these compounds impacts the indefiniteness issue.
- II. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Nishimuri of the Office Action mailed on 4 June 2004. Applicant correctly states that the

cited reference should have been applied under section 102(a). Applicant has submitted a verified translation of applicant's priority document in order to perfect applicant's priority claim. For those claims that had been rejected under Nishimuri, the translated priority document teaches the claimed invention. It is noted that the translator's verification statement refers to an incorrect filing date for the priority document, German Patent Application No. 199 15 377.9. It is assumed that the listed filing date was a mistake in the statement and that the correct date is 6 April 1999, as this is the date listed on the priority document itself and in the oath/declaration. If this assumption is incorrect and the statement lists the correct filing date, applicant should clarify the record. Under the assumption that the correct filing date of the translated priority document is 6 April 1999, rejection is withdrawn.

- III. In view of applicant's amendments and arguments, applicant traverses the section 103 rejection over Jonschker of the Office Action mailed on 4 June 2004. Applicant questions whether titanium dioxide would be expected to exhibit catalytic activity in a deodorization or oxidation process. Applicant asserts that titanium dioxide would be expected to be "inactive." Akiba et al. USPA 2004/0229540 teaches that titanium dioxide inherently behaves as a photo-catalyst in oxidation processes. See Akiba et al.

(paragraph 33). Applicant argues that the coating of Jonschker is protective and therefore cannot be catalytic. Whether the coating of Jonschker is protective or catalytic, the titanium dioxide of Jonschker would be expected to necessarily be catalytic as claimed. It is further remarked that applicant's claimed particles are not described as exhibiting catalytic activity. Rather, the transition metal oxide material of the particles is described as exhibiting such activity. Rejection is maintained.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
9. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Tuesday, Thursday, and alternating Fridays.
11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa  
23 November 2004

